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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,663	09/23/2003	Atsushi Shiraishi	XA-9938	9107
181	7590	07/01/2005	EXAMINER	
MILES & STOCKBRIDGE PC 1751 PINNACLE DRIVE SUITE 500 MCLEAN, VA 22102-3833			LE, THIEN MINH	
			ART UNIT	PAPER NUMBER
			2876	

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/667,663

Applicant(s)

SHIRAIISHI ET AL.

Examiner

Thien M. Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-15 is/are allowed.
- 6) ☒ Claim(s) 1-4, 10, 16 and 17 is/are rejected.
- 7) ☒ Claim(s) 5-9 and 11 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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DETAILED ACTION

The information disclosure statement filed on 9/23/2003 has been entered. The priority document filed on 1/8/2004 has been entered. Claims 1-17 are presented for examination.

Specification

The abstract of the disclosure is objected to because it contains more than 150 words. Correction respectfully is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting

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directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-4, 10 and 16-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Estakhri et al. (Estakhiri et al. – 6,151,247; herein after referred to as “Estakhiri”).

Regarding claims 1, 3-4, and 16-17, Estakhiri discloses a digital system “employing non-volatile memory and particularly flash memory as mass storage for computers, digital cameras and the like” (see summary of the invention) which inherently implying the use of a flash memory card.

According to Estakhiri, “with the use of flash memory, however, the area of memory that once contained information must first be erased prior to being re-programmed. In a flash memory device, write and erase cycles are generally slow and can significantly reduce the performance of a system utilizing flash memory as its mass storage.” (see summary of the invention).

Estakhiri’s system achieves this objective by assigning flag status at each block, and maintaining the status information of each block in a look-up table. Specifically, Estakhiri discloses a space manager/flash interface circuit 28 that includes a space manager control unit 38, a flash interface circuit 40 and a space manager storage unit 42. According to Estakhiri, the space manager unit 38 comprises a state machine for controlling the information that stored in a look-up-table (LUT) maintained within the space manager storage unit 42. Figure 1 of Estakhiri further shows memory signals 20

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that include a flash address bus, a bi-directional flash data bus and flash control signals.

Figure 2 of Estakhiri shows a block 200 having 16 sectors and wherein each sector storage space 202 is used to store data and ECC information; a VLBA field 204 for storing the VLBA, a block status flag field 206 and a defect field 208. According to Estakhiri, the block status flag field 206 is used for storing the status of the block 200.

In operations, the block status flag field can be used to indicating various storage information statuses (see figures 4a-4i). The controller 14 and space manager control unit 38 are used to control the read/write, rewrite, erase operations of the flash memory in according to the flag status fields of the memory maintained in the look-up table (LUT).

As can be seen, Estakhiri discloses the claimed invention.

Regarding claim 2, see the discussions regarding claim 1. Further, Estakhiri discloses the in the descriptions of figure 1 the step of writing to the memory block and the step of updating the status flag to indicate "used" memory block or sectors. Estakhiri further describes in the descriptions of figures 2-3, figure 4a-4i, various other status flags for indicating: defective blocks, defective sectors, blocks to be written or erased, and the method of tracking and maintaining the status flags in the look-up table utilizing the controller.

Regarding claim 10, see the discussions regarding claims 1 and 2 for the operations and the descriptions of the memory space controller and the look-up table.

Allowable Subject Matter

Claims 12-15 are allowed.

Claims 5-9 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art disclose various memory card management systems and methods. However, the prior art fails to disclose a memory card comprising the processes of updating the free-space information flag by using a first and second free-space information flags, first and second erase tables, etc. as recited in collectively in claims 5 and 12.

The prior art also fails to disclose the limitations of claim 11.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thien M. Le whose telephone number is (571) 272-2396. The examiner can normally be reached on Monday - Friday from 7:30am - 4:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on (571) 272-2398. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Le, Thien Minh
Primary Examiner
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June 22, 2005